Workshop addresses contaminants of emerging concern in drinking water

By Paula Whitacre

Professionals from large city water utilities, representing more than 15 million customers, came together with public health researchers, federal regulators, the medical community, and communication experts at a workshop July 10-11 in Washington, DC, to discuss issues associated with contaminants of emerging concern (CECs) in drinking water.

To provide a common vocabulary for the meeting, CECs were defined as a broad range of unregulated chemical compounds that can be found in water supplies in trace amounts, including pharmaceuticals, personal care products, and endocrine disrupting compounds, among others.

"Water utilities are interested in getting ahead of issues related to CECs," said NIEHS Toxicology Liaison Christopher Weis, Ph.D. "This meeting was an excellent way to bring utilities, communication specialists, and scientists together to share ideas and concerns." Weis served as a member of the workshop advisory committee and made a presentation on NIEHS-supported research related to emerging techniques in toxicology.

"The challenges for utilities include how to manage and monitor CECs in drinking water and how to communicate to the public about them in absence of definitive information regarding their risk," said Alice Fulmer, senior research manager at the Water Research Foundation *(http://www.waterrf.org/Pages/Index.aspx)* (see text box), which organized and sponsored the meeting. "Utilities feel the responsibility falls on them, even though CECs have not been shown to have definite human health effects and there are no regulations to control them."

Linked Video

Watch the latest WFR educational video about the CEC nitrosamine (2:00).

How utilities provide water to the public varies widely across the country, with a range of sources, treatment methods, distribution systems, and state regulations that supplement those on the federal level, explained Richard Sakaji, Ph.D., a water quality manager with the East Bay Municipal Utility District in Oakland, Calif. Despite this variability, "We all have customers and we need better communications tools to talk about nonregulated compounds."

Water Research Foundation (WRF)

WRF, which funded the Workshop to Broaden the National Dialogue on Contaminants of Emerging Concern and Public Health, has worked with a variety of professional partners to identify, prioritize, fund, manage, and communicate scientifically sound research across the globe.

The foundation is a nonprofit organization that invests research dollars from more than 950 organizations in the U.S. and abroad, to tackle an array of issues related to the treatment and delivery of clean drinking water. Since 1966, it has managed more than 1,000 high-impact research studies, valued at more than $500 million. Among the group's many online resources is an archive of webcasts *(http://www.waterrf.org/resources/webcasts/Pages/on-demand.aspx)* about various aspects of drinking water management.

David Sedlak, Ph.D., co-director of the Water Center at the University of California, Berkley, noted some of the limitations in risk assessments related to CECs. "Most of the research [on CECs] has been on ecological impact and aquatic ecosystems, rather than human health. Stronger messages require more science," he observed. He also called for more research on transformation and degradation products that could potentially lead to toxic compounds.

Weis highlighted ways NTP can further research related to CECs in water. "Toxicology for the 21st Century (Tox21) is designed to develop methods that help us prioritize compounds to investigate and develop predictive models for biological response in humans," he said. Acknowledging that Tox21 does not address the exposure component of risk assessment, Weis said, "If a chemical tests positive in many assays and has high exposure nationwide, that's the kind of prioritization that we might consider working on together."

The approximately 40 participants identified ways to enhance communication between the water sector, researchers, regulatory agencies, and public health groups, including more organized discussions, publications, and workshops that span across disciplines. For example, several water-sector participants suggested finding ways to work with pediatricians, Centers for Disease Control and Prevention agencies, and other health care professionals on water issues.

An important topic at the workshop was how water professionals could best communicate with the medical community, particularly pediatricians, about CECs. Discussing strategies during a break are, from left, Leonardo Trasande, M.D., associate professor in pediatrics, environmental medicine, and population health at New York University Langone Medical Center; Jerome Paulson, M.D., director of the Mid-Atlantic Center for Children's Health and the Environment at Children's National Medical Center in Washington, D.C.; and Weis. (Photo courtesy of Paula Whitacre)

"Utilities are eager to sit at the table to provide input about the type of research that would help answer the questions they receive from the public," Fulmer said. "We are also interested in hearing what kind of work we can do that would help the public health community."

(Paula Whitacre is a contract writer with the NIEHS office in Bethesda, Md.)

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